

DIVERSITY OF FLESHY MUSHROOM IN DRY DECIDUOUS FOREST IN SANGALI DISTRICT, MAHARASHTRA. (INDIA)

*Tembhurne R. R. and S. P. Nanir

¹Sangola College, Sangola, Dist.- Solapur (M. S.) 413307.²Former Director, Govt. Institute of Science, Aurangabad (M. S.) 431004.

*Corresponding Author: Tembhurne R. R.

Sangola College, Sangola, Dist.- Solapur (M. S.) 413307.

Article Received on 05/09/2019

Article Revised on 26/09/2019

Article Accepted on 16/10/2019

ABSTRACT

During the floristic study of the mushroom of this region author come across a number of mushroom species. In this study five species of mushroom are being discussed. 1. *Lactarius vellereus* (Fr.) Kuntze (1891), 2. *Mycena pura* (Pers.) P. Kumm., 3. *Asterophora lycoperdoida*, 4. *Hygrophorus melizeus* (Fr.) and 5., *Spinolosa sps.* are being discussed with different five genus and species. All the different genus and species are being reported for the first time from this region.

KEY WORDS: Mushroom.**INTRODUCTION**

The soil is one of the most important and interesting factor and is the most characteristics feature of terrestrial environment in which study of soil increase knowledge and helpful in practice of Agriculture, Horticulture and Forestry. The soil is the earthy material in which plants grow. The science deals with study soil is called as soil science. The soil is thin covering over the land consisting of mixture of minerals, organic materials, living organisms, air and water that together support the growth of plant life. Soil is the mixture weathered rock material and organic detritus both of which are formed through the physical, chemical and biological processes occurring slowly and slowly for a long periods at earth surface.

On the soil consists number of micro organisms like bacteria, viruses, fungus, protozoa and algae nutrients released in detritus are decomposed by various soil microbes like bacteria, algae, fungi and protozoa etc. bound in or on soil particles and taken back into plants through their root system. Soil (mud) also main source of nutrients for all aquatic plants. In addition soil is the means of support for all terrestrial organisms. Fungi plays very important role in decay and decomposition of plants and animal particles and also decomposed dead bodies of plants, animals and their waste.

Our paper focuses on the macromycetes fungi. This large group includes a majority of the species of the class basidiomycetes. Macromycetes constitute a large part of Sangali fungal reserve and are important components of its natural ecosystem. They create a secondary product beneficial to both animals and people in the form of

fruiting bodies the yields of which the forests may reach over a ton of fresh weight per hectare. Macromycetes or mushrooms tremendously valuable food products. Mushroom is technically confined to members of a fungi with gills of thousands of species of mushrooms know through out the world. A few species produce death or serious illness when eaten.

The number of poisonous fungus species is probably more than 200 many mushrooms formerly considered doubtful or poisonous have been found to be edible. Fungal species are especially important components of biodiversity in tropical forest. Mushrooms are unique they are neither animal or plant. Some people consider them plants for various reasons but they differ from plants in plants in that they lack the green chlorophyll that plants use to manufacture their own food and energy for this reason they are placed in a kingdom of their own the kingdom of fungi. The above described mushrooms are called saprophytic fungi due to their feeding habits.

Fungi are beneficial organisms we have derived number of useful antibiotics from them, including the wonder drugs penicillin. Fungi are play important role in industrial fermentation they contains various types of enzymes, vitamins, folic acid and vitamin B-12 absents in other foods are present in mushrooms. Due to low starch /sugar content mushrooms are ideal food for diabetic patient. Fat content of mushroom is rich in linoleic acid an essential fatty acid since they do not produce cholesterol there are good for heart patients. Due to their alkalines ash high potassium, sodium ratio and

high fiber content mushroom are ideal food for those sufferings.

Organic acid fungi are cause pathogen and fungi perform great role in medicine as a source antibiotic. This paper introduced from sangli district of three different region that have been grown naturally on various types of natural biological media. Terrestrial mushroom are included. Many workers reported fungi from decaying log, humus, dung, rhizosphere (Alexopoulos and Mims 1979, Alexopoulos 1962, Lincoff G. and Mitchel D.H. 1977, Lincoff Garry H. 1981, Ainsworth G.G., Sparrow F.K. and Sussman 1973, Miller O.K. 1975, 1977, Smith A.H. 1947, 1968, 1971, 1973, 1979, Snail 1970, 1971 Peter Jordan 1995, 1996 and 2000, Augusto Rinaldi Vassali Tyndalo 1985, Jacob E. Lange and Morten Lange 1961).

MATERIAL AND METHOD

All the sample were collected from different areas of Sangli district. The three region were taken into consideration. These were Sagareshwar from kadegaon taluka, Vita ghat from Vita taluka and Sukarachri from Atapadi taluka. From each three region sample were collected from different localities. Total 48 fleshy mushroom sample were collected.

All the fleshy mushroom sample were grow on natural media. The source of natural media on which fleshy mushroom grown are humus, deadwood debris, decaying logs, wood decomposing fungi, dung, dying tree roots, roots of living plants, exterior and interior humus contain soil, lawn and garden, health forest and landscape, dead plant material, living plant material, bark of trees, living and non-living host of plants biomass, topsoil.

All the fleshy mushroom collected from wild area of Vita, Sagareshwar and Sukarachari during month of September 2007 from the different localities and material deposited in the formalin and photographs it, listed it according to index of preservation and studied. Identification of all mushroom is carried out with the help of movable suiting, stopper photographs, preserve material and following mushroom to taking a refrecnes of Simon and Schusters Guide to mushroom by Giovanni Pacioni, U.S. editor: Gary Lincoff., The mushroom guide and identifier by Peter Jordan, Augusto Rinaldi, Vassili Tyndalo-The complete book of mushrooms, Mushroom of the great lakes region by Verne ovid Graham, Collins Guide to mushrooms and Toadstools by morten lange and F. Bayard Hora. This is the important method are use for the identification of fleshy mushroom.

RESULT AND DISCUSSIONS

1. *Lacterius vellereus* (Fr.) Kuntze (1891).

COLLECTION EXAMINED: RRT/116, Sept.-2007, Vita, Dist.-Sangli. On moist soil.

DISTIRBUTION: INDIA: M. S. (Tem, 2007).

Etymology from latin velvety; Cap 8-24 cm, white to ochre tint, globose, rounded, hallow at the apex, convex then depressed at centre, surface tiny velvety, periphery rough, smooth; Gills are whitish brown in color, cream color, many in number, smooth, arise at lower part of the cap, drop of latex cover on gills with lines; Stipe 3-6 x 2-3 cm, very short, like subsessile, cover white latex with lines, latex abundant on the stipe, irregular, hard, thick, solid, packed, cylindrical, flavor peppery and acid; Spores are white, subglobose with slight reticulum, 9-12 x 7.5-10 mucron in diameter.

2. *Mycena pura* (Pers.) P. Kumm.

COLLECTION EXAMINED: RRT/117, Sept.-2007, Vita, Dist.-Sangli, On moist grassy soil.

DISTRIBUTION: INDIA: M. S. (Tem, 2007).

Etymology from latin clean; Cap 2-8 cm, purple to pale lilac, campnulate, eventually flat, above smooth, dome shape; Gills are lower surface of the fruiting body, smooth, many bears spores, brown in color, adnate; Stipe long, cylindrical, thin, solid, packed, 5-12x0.3-0.5 cm, often cover with hairy base, white, flesh fine, grayish, mealy odor and flavor; Spores broadly elliptical, smooth, 10-11x6-8 microns; can be eaten but little interest, rainy season.

3. *Asterophora lycoperdoida* (Bull.) Ditmar

COLLECTION EXAMINED: RRT/118, Sept.-2007, Vita, Dist.-Sangli. On moist soil.

DISTIRBUTION: INDIA: M. S. (Tem, 2007), Britain, Ireland, Europe and North America.

Nyctalis asterophora is the synonym of this mushroom in greek it is like a puffball: Cap yellowish, smooth, spherical, 1-2 cm in width, cottony.; Gills are arise at lower surface of pileus, smooth, more in number, white then brown in color, adnate, distant, thick, forked: Stipe long, cylindrical, smooth, solid, packed, whitish yellow in color, at the base cotton like appearance 1-3 x 0.3-0.8 cm, flesh dark grey, odor and flavor insignificant: Spore white, ovoid, smooth, 5-6 x 3.5-4 microns: Non edible, occur rainy season, some of the time in summer and autumn attached with moist soil.

4. *Hygrophorus melizeus* (Fr.)

COLLECTION EXAMINED: RRT /114, Sept.-2007, Vita, Dist.-Sangli. On moist soil.

DISTRIBUTION: INDIA: M. S. (Tem, 2007).

In greek called honery or white colored: Cap 2.6-4 cm, very light, white in color, irregular in shape, rounded, rough; Gills are yellowish, cream colored, decurrent, distant, smooth, many in number bears a spores; Stipe long, cylindrical, solid, white in color, attached with moist soil, 7-8 x 0.6-1 cm, conspicuously floccose and flesh cream color; Spores ellipsoidal, smooth, 6.5-9 x

4.5-5 microns. Can be edible, habitat in grass with moist soil, rainy season, summer and autumn.

5. *Spinolosa species*

COLLECTION EXAMINED: RRT/115, Sept.-2007, Vita, Dist.-Sangli. On moist wood.

DISTRIBUTION: INDIA: M. S. (Tem. 2007).

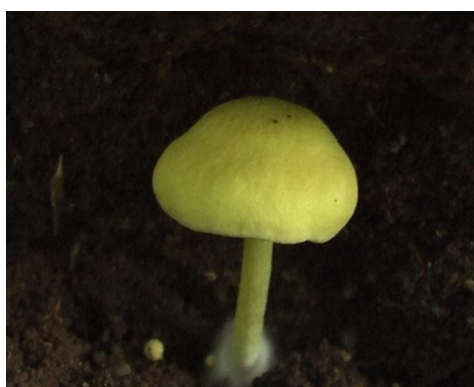
Cap rough, rounded, cylindrical, spine like 4-5 cm, brown in color; Gills are smooth, many, white in color; Stipe long, cylindrical, solid, packed, white in color 7-8 cm in length; spores are brown, 4-6 microns, spherical in shape.



1. *Lacterius vellereus*



2. *Mycena pura*



3. *Asterophora lycoperdoida*



4. *Hygrophorus melizeus*



5. *Spinolosa sps.*

REFERENCES

1. P. D. Sharma (1991, 1987), The fungi, 1st edition m/s Rastogi and co. merrut. P. N, 279.
2. Bressa G. L., L. Cima, and P. Costa. 1988. Bioaccumulation of Hg in the mushroom *Pleurotus ostreatus*. *Ecotoxicology and Environmental Safety*, Oct. 16(2): 85-89.
3. Fox, F. M. 1983. Role of Basidiospores as inocula for mycorrhizal fungi of birch. In: *Tree Root Systems and Their Mycorrhizas*, The Hague.
4. Stijve, T. 1992. Certain mushrooms do accumulate heavy metals. *Mushroom, the Journal of wilds Mushrooming*, 38(1): 9-14.
5. Stijve, T. R. Funbaux, and B. Philippossian. 1986. Agaritine, a p-hydroxymethylphenylhydrazine derivative in cultivated mushrooms (*Agaricus bisporus*), and in some of its wild growing relatives. *Deutsche Lebensmittel-Rundschau*, 82: 243-248.

6. Stijve, T. and R. Roschnik. 1974. Mercukry and methyl mercury content of different species of fungi. *Trav. chim. alimen. Hyg.*, 65: 209-220.
7. Augusto Rinaldi, Vassili Tyndalo, The complete book of mushroom. 1st edition "Variaa Grandi Opere" September 1972.
8. Verne Ovid Graham, "Mushroom of the Great lakes mushroom. Plate-I to Plate-49.
9. Morten Lange, F. Bayard Hora. Collins, 1963. Guide to Mushrooms and Toadstools.
10. Peter Jordan, The mushroom guide and Identifier, Anness publishing limited, 1995, 1996, 2000.
11. Simon and Schuster's, Guide to mushroom By Giovanni Pacioni, U. S. Editor:Garry Lincoff fiveside Book published by Simon and Schuster Inc. New York, London, Toronto, Sydney and Tokyo.
12. David Arrora's Mushrooms Demystified (1986).
13. M. Catherina Aime 2, 3, 4, Rytas Vilgalys 4 and Orson K. Miller Jrs, THE Crepidotaceae (Basidiomycota, Agaricales), Phylogeny and taxonomy of the genera and revision of the family based on molecular evidence March 18, 2004 to September 21, 2004.
14. Maria Drumeva- Dimcheva and Melania Gyosheva-Bogoeva Section One: Bulgaria's Biiological Diversity, The macromyctes fungui of Bulgaria.
15. Michael Kuo. identifying mushroom-Retrieved from the mushroom Expert, Nov. 2006.
16. Paul Stamets. The Overstory =//= 86, The Role of mushroom in nature. The overstory agroforestry ejournal.
17. Alexopoulos C. J. and C. W. Mims. Introduction mycology. Third edition P. N. 359-387, 429-445, 446-469.
18. Lincoff, Gary H. and Parioni Giovannied, Simon and Schuster's Guide to mushroom (New York 1981).